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Citation for published version (APA):

Evers, Y. J., Dukers-Muijers, N. H. T. M., Van Liere, G. A. F. S., & Hoebe, C. J. P. A. (2020). Sex Abroad Among Men Who Have Sex With Men and Its Association With Chemsex, Sexual Risk Behavior, and Sexually Transmitted Diseases: A Cross-Sectional Study in the Netherlands. *Sexually Transmitted Diseases*, 47(9), E29-E32. <https://doi.org/10.1097/OLQ.0000000000001207>

Document status and date:

Published: 01/09/2020

DOI:

[10.1097/OLQ.0000000000001207](https://doi.org/10.1097/OLQ.0000000000001207)

Document Version:

Publisher's PDF, also known as Version of record

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Sex Abroad Among Men Who Have Sex With Men and Its Association With Chemsex, Sexual Risk Behavior, and Sexually Transmitted Diseases: A Cross-Sectional Study in the Netherlands

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Abstract: Almost half of men who have sex with men visiting Dutch sexually transmitted disease clinics reported sex abroad in the past 6 months, mainly in Western countries. One in 4 men who have sex with men who had sex abroad used drugs during sex (“chemsex”) abroad. Having sex abroad was associated with having multiple sex partners and casual sex partner(s).

International travel is increasing in Europe and in the rest of the world. Increased ease of travel and the availability of online dating applications and websites facilitate quick formations of sexual relationships at every geographical location. Traveling has been associated with behavioral disinhibition.^{1,2} Away from everyday life’s social constraints, people might be more inclined to engage in risk behavior. Men who have sex with men (MSM) more often have sex abroad and have a larger number of sexual partners abroad compared with other travelers.³ Increased condomless anal intercourse with casual partners has been observed among MSM traveling abroad compared with when staying at home.⁴ One study from the United Kingdom showed that having sex abroad was associated with an increased risk of self-reported sexually transmitted disease (STD) diagnosis.² Moreover, increased drug use was reported among MSM traveling abroad compared with MSM staying at their home country,^{5,6} and this could contribute to an increased risk for STDs or drug use–related accidents. Recently, the use of certain drugs during sex to boost sexual pleasure has increasingly been described among MSM, and this has been

associated with condomless sex and STDs.^{7–10} This behavior is described as “chemsex.” The drugs mainly used are crystal methamphetamine, γ -hydroxybutyric acid (GHB), mephedrone, ketamine, ecstasy (XTC), and cocaine.^{10–12}

Limited data on the proportion of MSM who practice chemsex abroad and the association between sex abroad and chemsex are available. Furthermore, current evidence of the association between sex abroad and STDs is mainly from self-reported rates of STD infection,² instead of biological sampling. The current study uniquely assessed sex abroad and its association with chemsex, sexual risk behavior, and laboratory-confirmed STD test results among MSM visiting Dutch STD clinics.

METHODS AND MATERIALS

Data Collection

The outpatient Public Health Service STD clinics in the Netherlands offer free and anonymous STD and HIV testing for MSM and also provide preexposure prophylaxis (PrEP) for high-risk MSM. Men who have sex with men were defined as men who reported having sex with men in the preceding 6 months. During consultations, all MSM are routinely universally tested for urogenital, anorectal, and oropharyngeal *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), HIV, hepatitis B, and syphilis. Each consultation further includes a standardized nurse-taken medical and sexual history, including sociodemographic characteristics and sexual behavior. These data are registered in an electronic patient registry. For this study, nurses of 9 STD clinics in the Netherlands were instructed to recruit MSM 16 years or older during their regular consultations for participation in an online questionnaire in 2017 to 2018. Recruitment was regardless of reported drug use during the consultation. Online questionnaire data were linked to the most recent consultation in the electronic patient registry. The median time between the consultation date and completion date of the online questionnaire was 19 days (interquartile range [IQR], 14–38 days).

Definitions

Chemsex Behavior

Chemsex was defined as the use of drugs before or during sex in the past 6 months. The drugs included were crystal meth, cocaine, designer drugs (2-CB, 3 MMC, 4-FA, 4-MEC), GHB, γ -butyrolactone (GBL), ketamine, 3,4-methylenedioxymethamphetamine, mephedrone, speed, and XTC. Drug use can vary for different place and time areas, and therefore, we assessed a larger variety of drugs than the 4 drugs normally included in the UK chemsex definition (i.e., crystal meth, GHB/GBL, or mephedrone).¹³

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Acknowledgments: The authors greatly thank all the staff of the participating sexually transmitted disease clinics for the recruitment of our participants, and in particular Marga Smit, Mandy Sanders, Mariska Muylers, Luuk Levels, Karlijn Kampman, Sophie Kuizenga-Wessel, Marie-Sophie Mutsaers, Nienke Bakker, Helmie van der Meijden, Deontee Shilue, and Harriette van Buel.

Conflict of Interest and Sources of Funding: The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest. This study did not receive any specific grants or awards.

Data Availability Statement: Interested researchers may contact the head of the data archiving (Helen Sijstermans: helen.sijstermans@ggdzl.nl) to receive the data.

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Received for publication January 29, 2020, and accepted May 25, 2020.

DOI: 10.1097/OLQ.0000000000001207

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STD Diagnosis and Sexual Risk Behavior

Sexually transmitted disease diagnosis was defined as being diagnosed with CT, NG, infectious syphilis (Lues I, Lues II, Lues latens recens), acute hepatitis B, and/or a newly diagnosed HIV infection at the most recent consultation of clients during the research period. Condomless anal intercourse was defined as not always using a condom during receptive or insertive sex. The number of sex partners in the past 6 months was categorized in “1–3,” “4–6,” “7–10,” and “more than 10” based on quartiles.

Sex Abroad

Sex abroad was defined as having sex in other countries than the Netherlands in the past 6 months. Respondents were asked whether they had any sexual contact abroad in the past 6 months. Subsequently, more detailed questions were asked related to this sexual contact abroad: country in which it took place and whether chemsex drugs were used during this sexual contact. Countries were grouped into Western (Europe, North America, Canada, and Oceania) and non-Western countries (Africa, Latin America, Asia).

TABLE 1. Associations Between Sex Abroad and Sociodemographic Characteristics, Chemsex, Sexual Behavior, and STD Diagnoses in 405 MSM Visiting STD Clinics in the Netherlands

	All Participants (N = 405), % of Total (n)	No Sex Abroad (n = 218), % of Total (n)	Sex Abroad (n = 187), % of Total (n)	Outcome: Sex Abroad	
				Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Sociodemographic characteristics					
Age, median (SD), y	40 (13.7)	40.19 (14.47)	40.62 (12.79)	1.00 (0.99–1.02)	
Ethnicity*				1	
Western	92.8 (376)	93.6 (204)	92.0 (172)		
Non-Western	7.2 (29)	6.4 (14)	8.0 (15)	1.27 (0.59–2.71)	
Educational level†				1	
Lower	33.3 (133)	35.0 (76)	33.1 (57)		
Higher	66.8 (267)	65.0 (141)	68.9 (126)	1.19 (0.78–1.81)	
Chemsex					
Chemsex				1	
No	57.3 (232)	58.3 (127)	56.1 (105)		
Yes	42.7 (173)	41.7 (91)	43.9 (82)	1.09 (0.73–1.62)	
Sexual behavior and STD diagnosis					
No. sex partners <6 mo‡				1	1
1–3	27.8 (111)	37.0 (80)	16.9 (31)		
4–6	27.8 (111)	28.7 (62)	26.8 (49)	2.04 (1.17–3.57)§	2.12 (1.16–3.87)§
7–10	20.8 (83)	17.6 (38)	24.6 (45)	3.06 (1.68–3.56)¶	2.36 (1.20–4.65)§
≥11	23.6 (94)	16.7 (36)	31.7 (58)	4.16 (2.31–7.48)¶	3.04 (1.52–6.09)¶
Condomless anal intercourse				1	
No	39.8 (161)	40.4 (88)	39.0 (73)		
Yes	60.2 (244)	59.6 (130)	61.0 (114)	1.06 (0.71–1.58)	
Casual sex partner				1	1
No	27.2 (110)	36.2 (79)	16.6 (31)		
Yes	72.8 (295)	63.8 (139)	83.4 (156)	2.86 (1.78–4.60)¶	1.96 (1.14–3.38)§
Group sex				1	NS
No	82.2 (333)	86.2 (188)	77.5 (145)		
Yes	17.8 (72)	13.8 (30)	22.5 (42)	1.82 (1.08–3.04)§	
PrEP use				1	1
No	85.3 (307)	91.3 (179)	78.0 (128)		
Yes	14.7 (53)	8.7 (17)	22.0 (36)	2.96 (1.59–5.50)¶	2.02 (1.02–4.03)§
Recent STD diagnosis#				1	
Negative	77.0 (304)	78.2 (169)	75.4 (135)		
Positive	23.0 (91)	21.8 (47)	24.6 (44)	1.17 (0.73–1.87)	
Known HIV positive				1	
No	89.4 (362)	90.8 (198)	87.7 (164)		
Yes	10.6 (43)	9.2 (20)	12.3 (23)	1.34 (0.71–2.53)	

Bold indicates statistically significant.

*Ethnicity was based on the definitions used by the Statistics Netherlands (www.cbs.nl). Western: person who was born in Europe (excluding Turkey), North America, Oceania, Indonesia, or Japan. Non-Western: person who was born or of whom at least one parent was born in Africa, Latin America, or Asia (excluding Indonesia or Japan).

†Educational level was measured as current or last completed education and divided into lower educated (pre-vocational secondary education, secondary vocational education) and higher educated (university, higher professional education, preuniversity/senior general secondary education). Educational level was missing for 5 participants and excluded pairwise from analysis.

‡Number of sex partners was missing for 6 participants and excluded pairwise from analysis.

§ $P < 0.05$.

¶ $P < 0.001$.

|| $P < 0.01$.

#STD laboratory test results were missing for 10 participants and excluded pairwise from analysis.

Statistical Analysis

The proportion of MSM diagnosed with an STD was compared between MSM who had chemsex abroad, MSM who had sex abroad without chemsex, and MSM who did not have sex abroad using χ^2 tests. Associations between sex abroad and socio-demographic variables, chemsex, sexual risk behaviors, and STD were assessed by univariable logistic regression analyses. All variables that were significantly associated with sex abroad ($P < 0.05$) in univariable analyses were included in a multivariable model.

Ethics Statement

This study was approved by the Medical Ethical Committee of the University of Maastricht (METC 2018-0485).

RESULTS

Study Population

A total of 785 MSM were recruited during the study period, and 405 fully completed the questionnaire (response, 51.6%). The median age of participants was 40 years (IQR, 31–47 years), 92.8% (376/405) had a Western ethnicity, and 65.9% (267/405) was higher educated. Chemsex was reported by 42.7% (173/405); the most reported drugs were XTC/3,4-methylenedioxyamphetamine (36.3%), GHB/GBL (33.1%), ketamine (18.0%), speed (12.8%), and cocaine (9.9%). The median number of sex partners in the past 6 months was 6 (IQR, 3–10). Anal condomless intercourse was reported by 60.2% (244/405). A recent STD diagnosis was found in 22.5% (91/405) of MSM (CT, 10.1%; NG, 13.8%; infectious syphilis, 3.0%; HIV, 1.0%).

Sex Abroad in Western Countries

Sex abroad in the past 6 months was reported by 46.2% (187/405). Sex abroad in Western countries was reported by 40.0% (162/405). Most visited countries were Germany (17.3%), Belgium (17.0%), and Spain (10.1%; Europe). Almost one-third (27.8%; 45/162) reported chemsex during traveling. In those reporting chemsex abroad, 26.7% (12/45) was diagnosed with an STD, compared with 20.5% (24/117) in travelers without chemsex and 21.6% (47/218) in nontravelers ($P = 0.13$).

Sex Abroad in Non-Western Countries

Sex abroad in non-Western countries was reported by 6.2% (25/405). Most visited countries were Thailand (0.7%), China (0.7%), and Japan (0.5%). One percent (2/25) reported chemsex during traveling. In those reporting chemsex abroad, none of the MSM (0/2) were diagnosed with an STD, compared with 34.8% (8/23) in travelers without chemsex.

Associations With Sex Abroad

Chemsex and recent STD test diagnoses were not higher among MSM who had sex abroad than MSM who stayed at home. Having sex abroad was independently associated with having had multiple sex partners (≥ 4 partners) in the past 6 months, having sex with casual sex partner(s), and the use of PrEP (Table 1).

DISCUSSION

Our study shows that almost half of MSM visiting Dutch STD clinics reported sex abroad in the past 6 months, mainly, in Western countries. Men who have sex with men rarely reported to have sex abroad in non-Western countries. Chemsex abroad was reported by one-third of MSM who had sex abroad.

Most MSM who had sex abroad had sex in neighboring countries Belgium and Germany, but also in Spain, which was in line with a study among MSM residing in Belgium.⁷ The European MSM Internet study report also showed that Germany and Spain are the most frequented countries for having sex abroad.¹⁴

Studies from Sweden and the United States have shown that drug use was higher among MSM who had sex abroad⁵ or MSM being at a gay resort⁴ than at home. In our study, chemsex was as high among MSM who had sex abroad as MSM who had sex in the Netherlands. The Netherlands is known as a liberal country concerning drug use, and this might be one explanation for the absence of an association between chemsex and having sex abroad. Nevertheless, chemsex abroad was common, and using drugs abroad can be associated with additional health risks because of uncertainties regarding composition of drugs and the lack of knowledge in traveling MSM on available local health services.¹⁵

Our study shows that recent STD test diagnoses were comparable between MSM who had sex abroad and MSM who stayed at home, but there was an independent association between having multiple sex partners and casual sex partners and having sex abroad. Studies that compared sexual risk behavior abroad to staying at home in the same group showed that there was an increase in casual sexual partners abroad.^{4,16} Preexposure prophylaxis use was also independently associated with having sex abroad, which might indicate that MSM are well prepared in preventing HIV when having casual sex abroad. Nevertheless, inconsistent condom use and multiple sex partners among MSM who had sex abroad could contribute to the spread of bacterial STDs internationally. Therefore, prevention and care related to STDs and drug use-related accidents is highly important in MSM who have (chem)sex abroad. The generalizability of our study might be limited to the high-risk MSM population visiting Dutch STD clinics because overall STD positivity (20% vs. 13%, $P < 0.001$) was higher among our participants compared with all MSM visiting the STD clinics in 2018 ($n = 14,957$). Because of the cross-sectional design, we cannot determine whether risk behavior changes while having sex abroad or whether it is predetermined.

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